CLAIMS

What is claimed is:

1. An active layer comprising at least one compound having a formula selected from Formula I, Formula II, and Formula III:

$$Pt(L^1)_2 \quad (I)$$

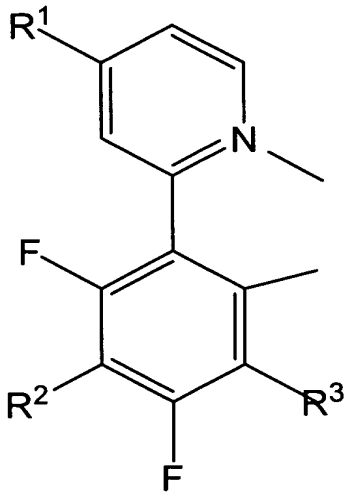
$$PtL^1L^2 \quad (II)$$

$$Pt\ L^1L^3L^4 \quad (III)$$

where:

in Formulae I, II, and III:

L^1 has Formula IV:



(IV)

wherein:

R^1 = H, R^4, OR^4, $N(R^4)_2$

R^2 = H, C_nF_{2n+1}, $C_nF_{2n+1}SO_2$, $COOR^4$, CN

R^3 = H, C_nF_{2n+1}, $C_nF_{2n+1}SO_2$, $COOR^4$, CN,

R^4 is the same or different at each occurrence and is H, alkyl, aryl, or adjacent R^4 groups can join together to form a 5- or 6-membered ring, and

n is an integer from 1 through 20;

in Formula II:

L^2 is a monoanionic bidentate ligand;

in Formula III:

L^3 is a monoanionic monodentate ligand; and

L^4 is a nonionic monodentate ligand.

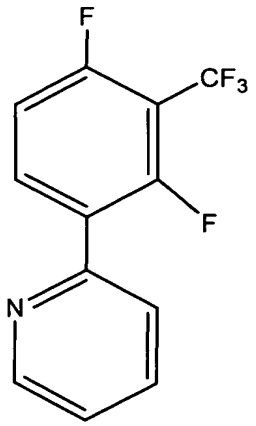
2. The active layer of Claim 1, wherein R^{12} and R^{13} are independently selected from H, CF_3, C_2F_5, *n*-C_3F_7, *i*-C_3F_7, C_4F_9, CF_3SO_2, $COOR^{14}$ and CN.

3. The active layer of Claim 1, wherein the compound has Formula I and L^2 is selected from a β-enolate, a phosphino alkoxide, and a ligand coordinated through a carbon atom which is part of an aromatic group.

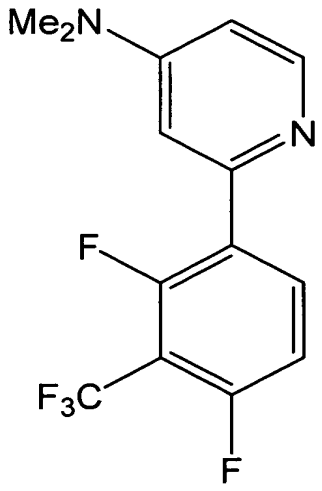
4. The active layer of Claim 1, wherein the compound has Formula II and L^3 is a hydride.

5. The active layer of Claim 1, wherein L^1 is selected from ligand 1-a through 1-y as shown in Table 5.

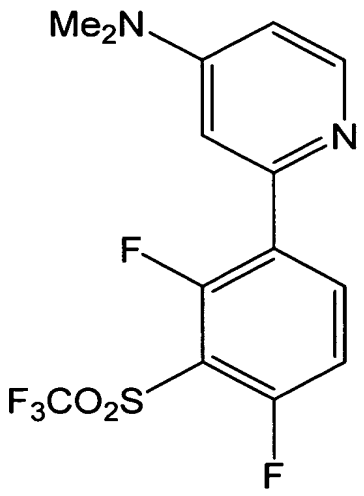
6. The active layer of Claim 1, wherein L^1 is selected from Formula V Formula VI, Formula VII, Formula VIII, and Formula IX:



(V)



(VI)



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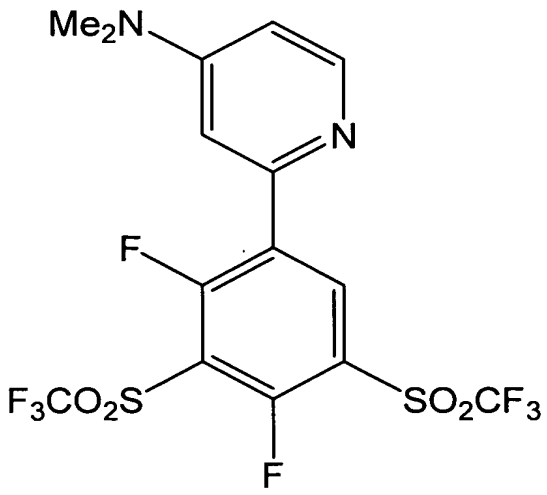

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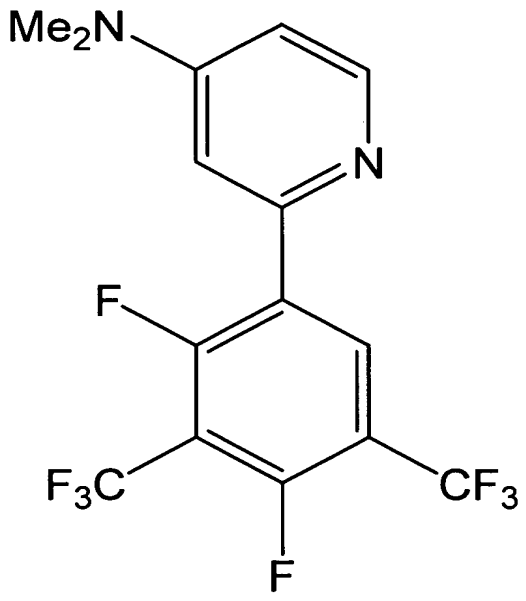


(IX)

7. An organic electronic device comprising at least one active layer of Claim 1.

8. A compound having a formula selected from Formula I, Formula II, and Formula III:

$Pt(L^1)_2$ (I)

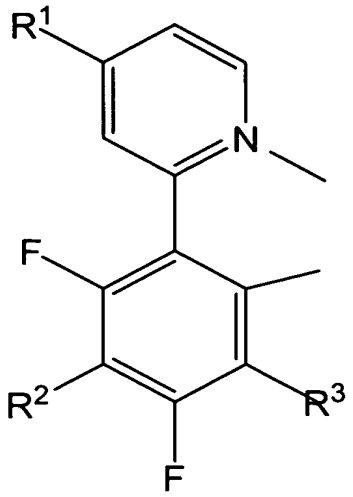
PtL^1L^2 (II)

$Pt\ L^1L^3L^4$ (III)

where:

in Formulae I, II, and III:

L^1 has Formula IV:



(IV)

wherein:

R^1 = H, R^4, OR^4, $N(R^4)_2$

R^2 = H, C_nF_{2n+1}, $C_nF_{2n+1}SO_2$, $COOR^4$, CN

R^3 = H, C_nF_{2n+1}, $C_nF_{2n+1}SO_2$, $COOR^4$, CN,

R^4 is the same or different at each occurrence and is H, alkyl, aryl, or adjacent R^4 groups can join together to form a 5- or 6-membered ring, and

n is an integer from 1 through 20;

in Formula II:

L^2 is a monoanionic bidentate ligand;

in Formula III:

L^3 is a monoanionic monodentate ligand; and

L^4 is a nonionic monodentate ligand.

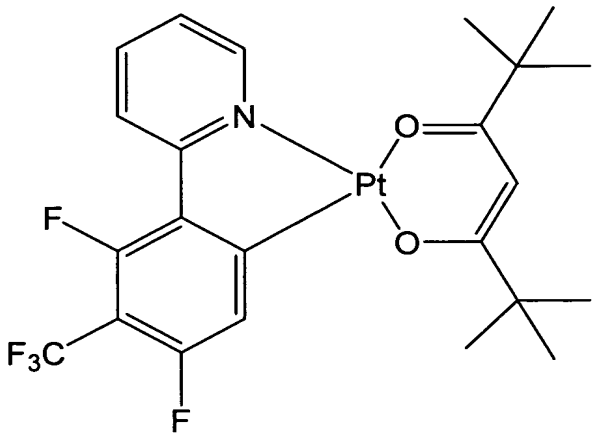
9. The compound of Claim 8, wherein L^1 is selected from ligands 1-a through 1-y, as shown in Table 1.

10. A compound of Claim 8, wherein R^2 and R^3 are independently selected from H, CF_3, C_2C_5, n-C_3C_7, i-C_3F_7, C_4C_9, CF_3SO_2, $COOR^{14}$ and CN.

11. A compound of Claim 8, wherein the compound has Formula II and L^2 is selected from a β-enolate, a phosphino alkoxide, and a ligand coordinated through a carbon atom which is part of an aromatic group.

12. A compound of Claim 8, wherein the compound has Formula III and L^3 is a hydride.

13. A compound having Formula Formula XV:



(XV)

14. An organic electronic device comprising a layer that comprises the compound of Claim 8.

15. An organic electronic device comprising a layer that comprises the compound of Claim 9.

16. An organic electronic device comprising a layer that comprises the compound of Claim 10.

17. An organic electronic device comprising a layer that comprises the compound of Claim 11.

18. An organic electronic device comprising a layer that comprises the compound of Claim 12.

19. An organic electronic device comprising a layer that comprises the compound of Claim 13.

20. An active layer of claim 1 further comprising a diluent.

21. An active layer of claim 20 wherein the diluent further comprises a material selected from a polymer, a small molecule, and a mixture thereof.